

REMARKS

The Examiner has rejected claims 1, 3 - 8, and 10 under 35 USC 102(e) as being anticipated by Okamoto et al. (US PN 6843405B2), she has rejected claims 1- 8 and 10 under 35 USC 102(e) as being anticipated by Okamoto et al. (US 2004/0194994A1) and she has rejected claims 1 - 5 and 10 under 35 USC 102(e) as being anticipated by Van Aken et al. (US2005/0087582A1).

US 6 843 405 (Okamoto I):

This document discloses a method of joining metallic materials that is two overlapping metal plates 2, 3 (see Figs. 3, 4 and 5). In the lower workpiece (3), a recess (4) is provided into which plasticized metal of the upper workpiece 2 flows in order to establish in this way a mechanical form-locking connection between the two workpieces. Contrary to the method according to the present invention, however, Okamoto I discloses that the friction welding tool (1) moves through the upper workpiece 2 so that the tip (16) extends into the opening (4) of the lower workpiece, that is, it will not stop at the level of the surface of the lower workpiece. In this respect, reference is made to column 3, lines 4 and 5, column 3, lines 24 and 25 and column 3 lines 51 and 52 from where it is clearly apparent that a contact of the tool with the surface of the lower workpiece must be avoided in accordance with the method of Okamoto I ("immediately before pin 16 contacts with the bottom of pt. 4").

In contrast, claim 1 of the present application requires that the rotating tool contacts the top surface of the lower workpiece before the tool is removed. This contact is necessary according to the method of the present invention in order for the work pieces to be properly joined by a connection which is similar to that obtained by diffusion welding. With the contact as required in accordance with claim 1, that is, the contact with the surface of the lower workpiece, oxides and oxide compounds are removed from that surface. In this regard, reference is made to page 4, lines 11 to 16 and page 7 lines 12 to 15 of the specification.

The jointures obtained with the method according to the present invention, which are similar to jointures as they can be obtained by diffusion welding are the basic features of the

present invention. With the method as defined in claim 1 of the present application there is no form-locking connection as it is provided by the method disclosed by Okamoto I.

Consequently, the method according to claim 1 of the present application is novel with respect to the state of the art as disclosed by Okamoto I. It is particularly noted that Okamoto I makes great efforts (providing a cut-out) to avoid contact of the tool with the lower workpiece.

US 2004/0194942 (Okamoto II):

This document discloses a method for the manufacture of a cooling plate with a coolant passage (4) (Figs. 1 and 2). The coolant passage (4) is covered by a cover plate (2), which is placed into a recess provided in the plate (1). Subsequently, the edges of the cover (2) are welded to the plate (1) by friction welding using a friction welding tool (6) including a welding pin which is moved along the outer edges of the cover (2). The end faces of the two areas which are welded together extend in the same plane as the axis of rotation of the friction welding tool (6). The friction welding tool (6) is not first moved through the upper workpiece, that is, the cover (2) and into contact with the lower workpiece, that is, the plate (1) but both parts are plasticized concurrently by the friction welding tool. This is clearly apparent from the figures 2, 8 and 10 and paragraphs 7 - 11 and 56 - 60 referred to by the Examiner. The reference therefore clearly does not anticipate the method as defined in claim 1 of the present invention.

Even though the Examiner has not referred to the Fig. 14 and the respective description (par. 87), it is pointed out that the example of the method described in this section for the jointure of two workpieces does not anticipate claim 1 since the friction tool penetrates into the lower workpiece. Rather, this example makes it quite clear that with the method disclosed in Okamoto II, both workpieces are intended to be plasticized directly by the friction welding tool.

Consequently, also Okamoto II does not anticipate the method as defined in claim 1 of the present application.

Reconsideration of the rejection of claim 1 under 35 USC 102 is respectfully requested.

The present application was filed in the US on 01/16/04 with a priority date of 01/30/03.

Okamoto I (US 6 843 405) was filed on 02/05/03 and Okamoto II (US 2004/0194942 A1) was filed on 04/21/04 as a continuation application of SN 10/024,598 filed 12/21/01.

Neither application was published before the priority date of the present application. Okamoto I was even filed in the US after the priority date of the present application. The question of obviousness therefore does not need to be examined.

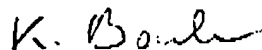
To this end, enclosed herewith is a translation of the priority document of the present application, which was prepared by the undersigned.

Concerning the third reference US 2005/0087582, it is pointed out that this application was filed in the US on 10/24/03, that is, after the priority date of the present application, and therefore is not a prior art reference - with the translation of the priority document supplied herewith.

The dependent claims 2 - 8 and 10 relate to features which are considered to be advantageous in connection with the method as defined in claim 1. They are all directly or indirectly dependent on claim 1 and consequently, include all the features of claim 1 and ought to be considered to be patentable already for that reason.

Reconsideration also of claims 2 - 8 and 10 is respectfully requested and allowance of claims 1 - 8 and 10 is solicited.

Respectfully submitted,



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